

US PATENT & TRADEMARK OFFICE



3 0402 00104 0460

DESIGN

D8

TS

1785

.P5pL

PLYMOUTH ROPE

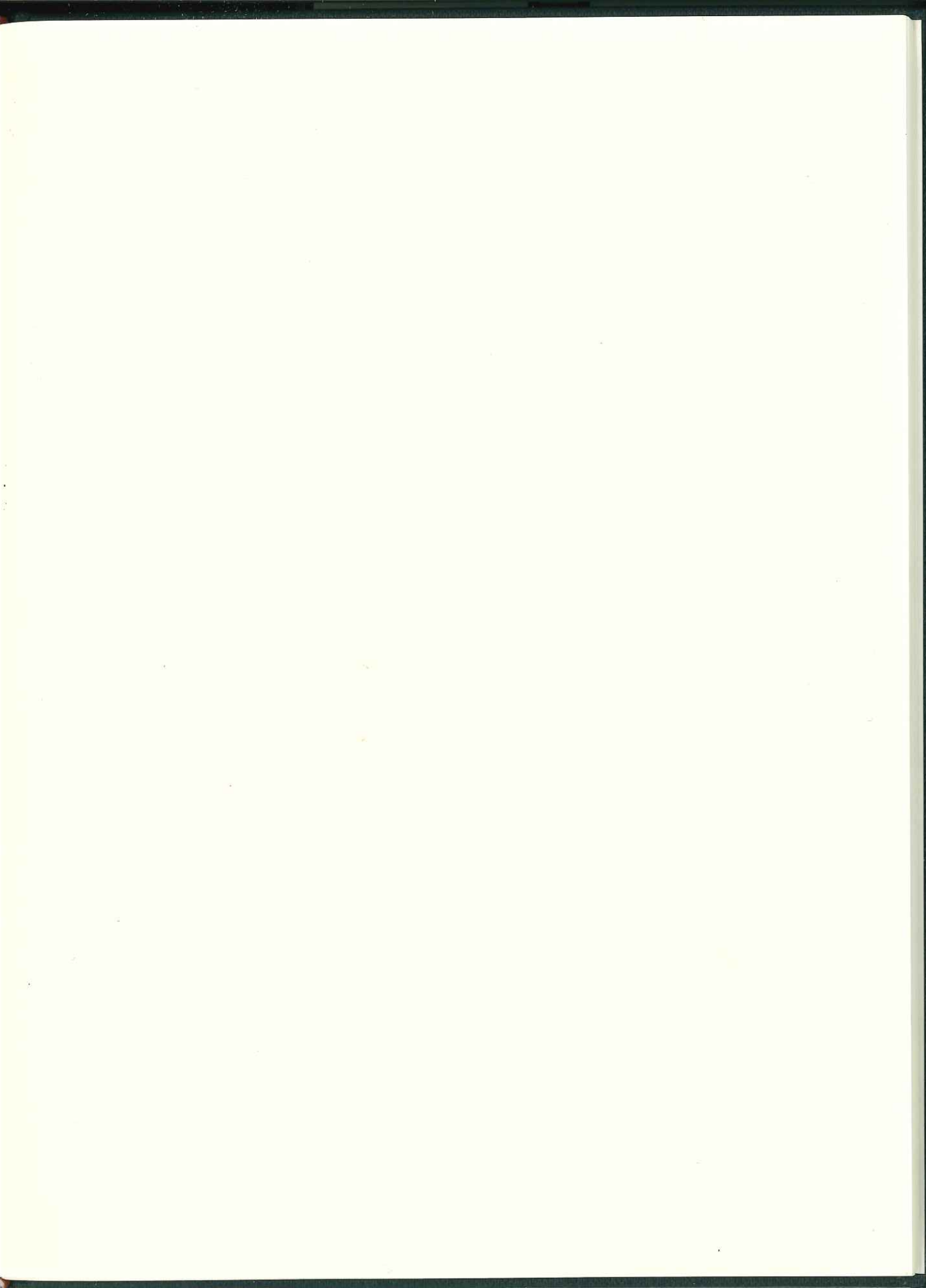
554

SCIENTIFIC LIBRARY

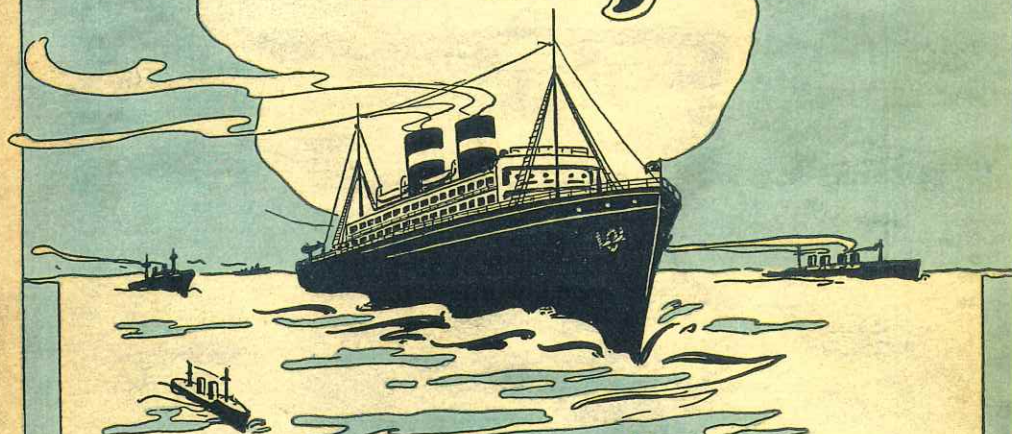


UNITED STATES PATENT AND

TRADEMARK OFFICE



Plymouth Rope



and the
Merchant Marine



TS
1785
P5pl

Plymouth Rope *and the* Merchant Marine



Compiled and published by

Plymouth Cordage Company, *Plymouth, Mass.*

North Plymouth, Mass.

Welland, Canada

1918

TS
178!
P5pl



PREPARING MANILA FIBER

Manila fiber from which the best rope is made is secured from the wild banana plant which grows exclusively in the Philippines. The fiber is secured from the leaf stems contained in the trunk and is prepared by hand labor. Climatic and soil conditions as well as the human problem determine the grade of the fiber



Foreword

IN 1824, when the Plymouth Cordage Company was established, the first American Merchant Marine was in its ascendancy. The great sailing ships, for which this country became famous, needed rope, and the ropewalk at Plymouth was built to meet their requirements.

To-day America is building a new Merchant Marine under very different conditions. The first was a growth gradual but continuous. The new one must come into being instantly. America's life depends upon it.

To the new Merchant Marine the Plymouth Cordage Company offers its experience and facilities built up during a constant growth of nearly a century. Back of the growth of the single ropewalk in 1824 to the largest manufactory of cordage in the world to-day with plants at North Plymouth, Massachusetts, and Welland, Canada, are two cardinal principles: *First*, to make good rope only. *Second*, absolute fairness in all business dealings. These two policies are responsible for the remarkable growth during nearly a century.

The constant endeavor to make quality rope has developed a corps of fiber experts whose familiarity with the characteristics of the many marks of Manila enables them to so select these grades as to secure the greatest durability and strength under the special conditions a rope is designed to serve.

But the selection of fiber is only one step in the making of a quality rope like Plymouth. Through

PLYMOUTH ROPE AND THE MERCHANT MARINE

every process of manufacture the strictest supervision is necessary. Most of the machinery by which Plymouth Rope is made contains special features, the inventions of our organization in its endeavor to make stronger, better, and more uniform cordage.

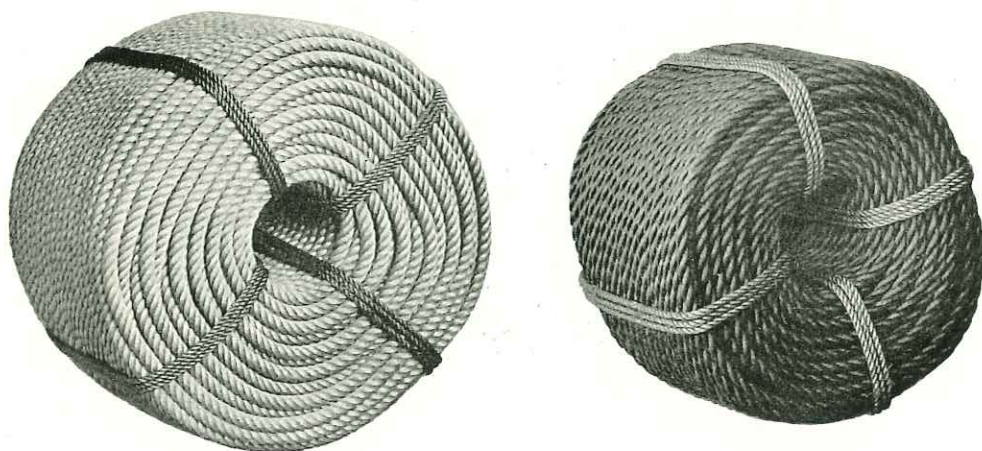
Because of this care in manufacture and purity of materials Plymouth Rope is uniform, strong, durable, and light. This latter fact should have careful consideration by buyers of cordage as it has a most important bearing upon the first cost. Light weight means greater yardage.

Plymouth Rope is distributed by high-grade dealers in nearly every industrial center who carry large stocks and who can give prompt and satisfactory service.



GRADING MANILA FIBER

Every bale of fiber received at our storehouse must be regraded according to the Plymouth standard. This is done by fiber experts trained through years of experience in selecting fiber for rope and cordage

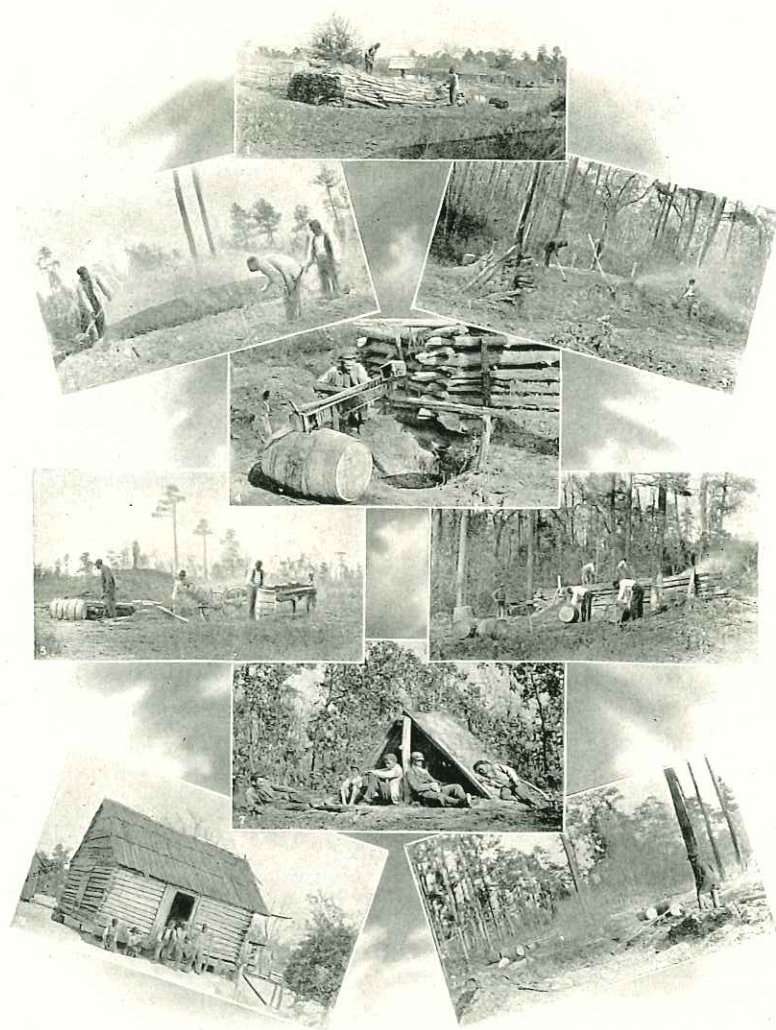


Bolt Rope

BOLT ROPE is the name of a rope of superior quality made from selected stock and with a medium soft lay. Its original use was for the roping of sails, and this name was evidently derived from the bolt of canvas from which the sails were made.

The necessity for an exceptionally strong and serviceable rope that would lay dead ahead of the sailmaker was the cause for its development.

Bolt Rope is made from Manila fiber and from tarred Russian, Italian, and American Hemp. Hemp Bolt Rope is used largely on sailing yachts (Russian Hemp being given the preference as it will retain the tar better than the American Hemp, although the latter is somewhat stronger). For general purposes, however, Plymouth Manila Bolt Rope is superior to most others and is used most commonly.



TAR KILN

The tar used by the Plymouth Cordage Company in manufacture of tarred fittings, etc., is secured from yellow, long leaf, or Georgia pine by the kiln process. This process is more expensive and the amount of tar secured is less than by the retort process. The kiln product is used, however, as this tar alone measures up to the Plymouth standards

PLYMOUTH ROPE AND THE MERCHANT MARINE

PLYMOUTH MANILA BOLT ROPE (SAILMAKER'S LAY)

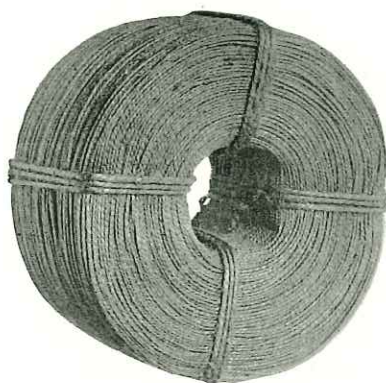
Circumference	Weight per foot in pounds	Length of coil in feet	Weight of coil in pounds
1 1/4"	.053	1200	64
1 1/2"	.072	1200	87
1 3/4"	.088	1200	106
2"	.112	1200	134
2 1/4"	.135	1200	162
2 1/2"	.168	1200	202
2 3/4"	.200	1200	240
3"	.240	1200	288
3 1/4"	.276	1200	331
3 1/2"	.312	1200	374
3 3/4"	.365	1200	438
4"	.410	1200	491
4 1/4"	.465	1200	558
4 1/2"	.532	1200	639
4 3/4"	.604	1200	725
5"	.670	1200	804
5 1/2"	.821	1200	986
6"	.975	1200	1170

TARRED HEMP BOLT ROPE

Circumference	Weight per foot in pounds	Length of coil in feet	Weight of coil in pounds
1 1/2"	.081	840	68
1 3/4"	.114	840	96
2"	.136	840	114
2 1/4"	.167	840	140
2 1/2"	.208	840	175
2 3/4"	.250	840	210
3"	.300	840	250
3 1/4"	.345	840	290
3 1/2"	.400	840	335
3 3/4"	.470	840	395
4"	.543	840	456

Tarred Fittings

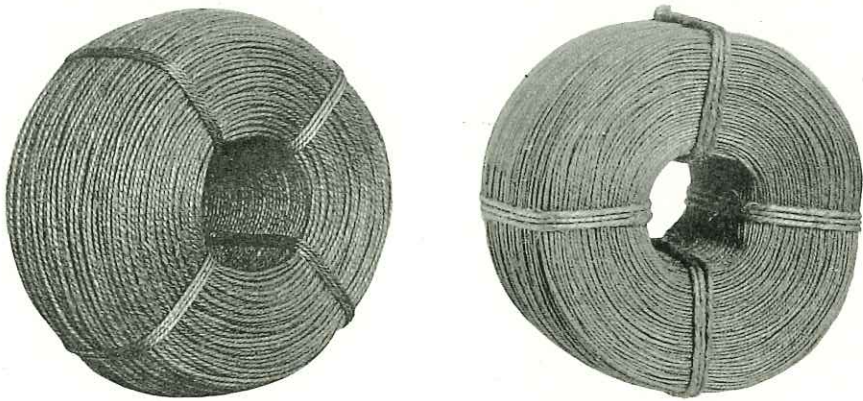
TARRED FITTINGS is the general name given to Marline, Houseline, two- and three-yarn Spunyarn, Roundline, and Hambroline. All tarred fittings with the exception of Hambroline are made from yarns spun right-handed and the angle of individual yarns in the fittings is left. The yarn for Hambroline is spun left-handed and the angle of the yarn in the cord is right; namely, the same as the strands in a right-laid rope.



Marline

MARLINE is made from yarns spun from Double Dressed (American) Hemp and tarred. It is a cord made of two threads and is used for worming, serving, and small seizing, and for general use on shipboard.

Marline, Common.	222 feet to the pound.	} Order by weight.
Marline, Medium.	360 feet to the pound.	
Marline, Yacht.	520 feet to the pound.	



Houseline

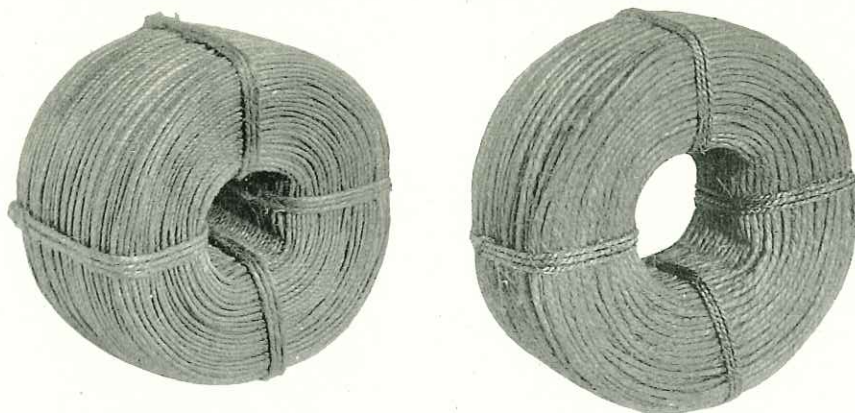
HOUSELINE is made of the same material and in the same manner as Marline except that the cord has three instead of two yarns. It is used for the same purposes as Marline. Sometimes both Marline and Houseline are made untarred when used for special purposes.

160 feet to the pound. Order by weight.

Roundline

ROUNDLINE is a cord of three yarns made in the same manner as Houseline but of a larger size. It is used for the same purposes, serving, worming, etc., on larger size rope where the contline to be filled is larger, making the use of a larger fitting necessary.

92 feet to the pound. Order by weight.



Hambroline

HAMBROLINE is a cord of three yarns approximately the same size and yardage as Roundline and is used for the same purposes. It differs from Roundline by being of an opposite twist.

92 feet to the pound. Order by weight.

Spunyarn

WHILE Spunyarn is made of the same materials as the other tarred fittings its method of manufacture is somewhat different. In a corded product the yarns are first spun and then an additional twist is given them in the opposite direction to the twist in the corded product. In Spunyarn the yarns are twisted together with no additional twist being put into them. Spunyarn lies smooth under the serving mallet and gives a close covering to the rope being served and keeps out the water. It is also used for general work on shipboard and in the rigging loft.

2-yarn Spunyarn.	93 feet to the pound.	} Order by weight.
3-yarn Spunyarn.	77 feet to the pound.	

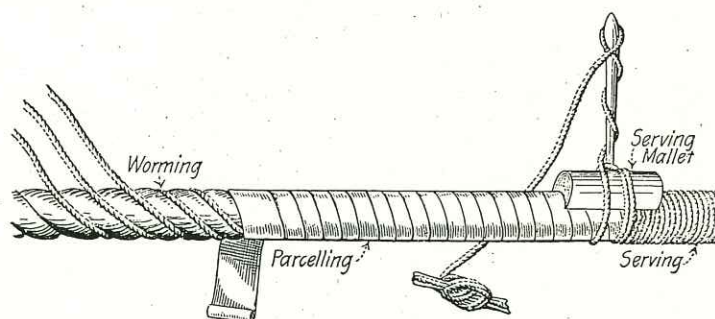


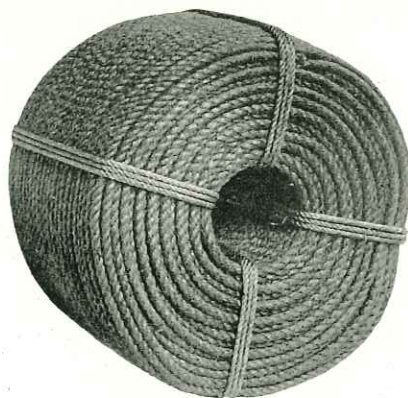
Fig. 3 Worming, Parcelling and Serving.

Reproduced from Knight's book, "Modern Seamanship," through courtesy of
D. Van Nostrand Company, Publishers, New York City

Seizing

SEIZING undoubtedly secured its name from its use in seizing together parts of rope, a throat of an eye splice, anchor lashings, boat gripes, etc. It is also used for worming and is sometimes called Wormline. It is made the same as Ratline and designated in the same manner by the number of threads, but being of smaller yarns is of a smaller size and greater yardage.

Size 6-thread.	Yardage 58 feet to the pound.	} Order by weight.
Size 9-thread.	Yardage 40 feet to the pound.	
Size 12-thread.	Yardage 29 feet to the pound.	

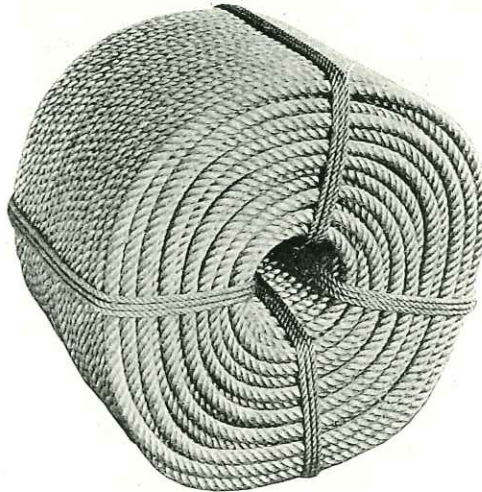


Ratline

RATLINE is generally made from tarred American Hemp. It is an especial part of the boatswain's store for general use on shipboard. Its original and most important use to-day is for the shrouds of a ship, forming a rope ladder by which the sailor may go aloft. The strands of this rope, of which there are three, are given a medium twist, while the rope is rounded up with afterturn so that an eye splice may be easily tucked and held by the afterturn of the rope. The method of attaching ratline to the shrouds in the case of three shrouds would be an eye splice seized to the first, a clove hitch around the middle and an eye splice again seized to the third. Ratline is also used for heavy serving, heaving lines, anchor and boat lashings.

Size	Approximate Circumference	Length of coil in feet	Weight of coil in pounds
6-thread	$\frac{3}{4}"$	1200	36
9-thread	$1"$	1200	50
12-thread	$1\frac{1}{8}"$	1200	70
15-thread	$1\frac{1}{4}"$	1200	90
18-thread	$1\frac{3}{8}"$	1200	106
21-thread	$1\frac{1}{2}"$	1200	120
24-thread	$1\frac{5}{8}"$	1200	140

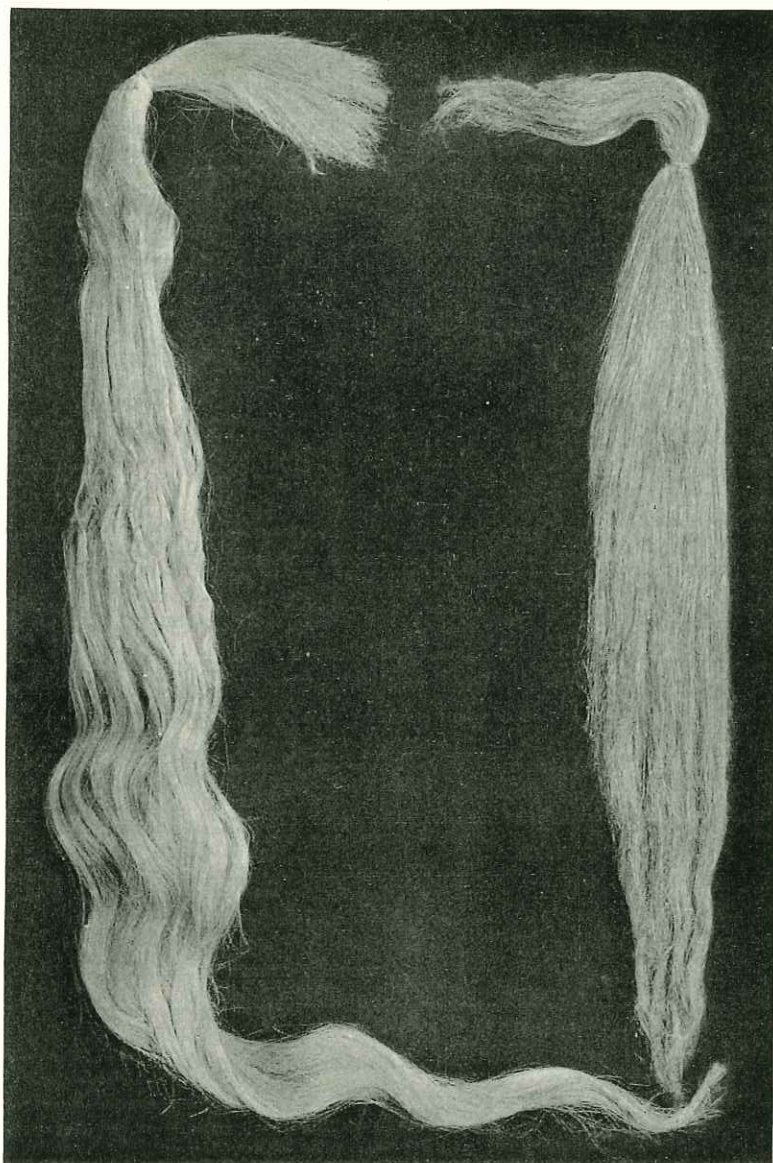
NOTE: Ratline is designated by the number of threads rather than by circumference or diameter measurements, namely, 6-thread, 12-thread, 18-thread, etc.



Tarred Hemp Rigging and Lanyards

BEFORE the advent of wire rope for standing rigging the four-strand tarred hemp rope was largely used for this purpose. Its use is now practically obsolete and tarred hemp rope of over $4\frac{1}{2}$ inches in circumference is seldom used. The principal use for this kind of rope at present is for Lanyards and Manropes.

Size in circumference	Length of coil in fathoms	Weight per fathom in pounds	Weight of coil in pounds
$1\frac{1}{2}$ "	130	.60	78
$1\frac{3}{4}$ "	130	.75	97
2"	130	.98	127
$2\frac{1}{4}$ "	130	1.25	163
$2\frac{1}{2}$ "	130	1.52	197
$2\frac{3}{4}$ "	130	1.81	235
3"	130	2.14	278
$3\frac{1}{4}$ "	130	2.5	325
$3\frac{1}{2}$ "	130	3.	390
$3\frac{3}{4}$ "	130	3.5	455
4"	130	4.	520
$4\frac{1}{4}$ "	130	4.5	585
$4\frac{1}{2}$ "	130	5.5	715
$4\frac{3}{4}$ "	130	6.	780
5"	130	6.6	860
$5\frac{1}{4}$ "	130	7.1	922
$5\frac{1}{2}$ "	130	7.8	1010
$5\frac{3}{4}$ "	130	8.45	1100
6"	130	9.4	1222



HANKS OF MANILA AND HEMP FIBERS

The above illustration shows the characteristics and relative length of Manila and American Hemp fibers

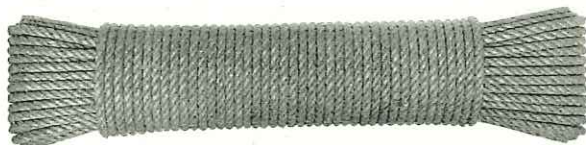
Quartermaster's Stores

QUARTERMASTER'S STORES consist of signal halliards, lead lines, and deep-sea lines.

Signal Halliards

THESE are generally made of three-strand plain-laid untarred Hemp in the following sizes:

Dia.	Cir.				
$\frac{1}{4}$ "	$\frac{3}{4}$ "	In hanks	30 fms. each (2 hanks in 1 length)	6.50 lbs.	
$\frac{5}{16}$ "	1"	In coils	120 fms.	22	lbs.
$\frac{3}{8}$ "	$1\frac{1}{8}$ "	In coils	120 fms.	29	lbs.



Lead Lines

LEAD LINES are generally made of three-strand untarred Hemp plain laid in two sizes only.

Hand Lead Lines $\frac{1}{4}$ " diameter, $\frac{3}{4}$ " circumference in hanks 33 fathoms each (2 hanks in 1 length) 7 pounds.

Deep-Sea Lead Lines $\frac{1}{2}$ " diameter, $1\frac{1}{2}$ " circumference in coils 125 fathoms each 62 pounds.

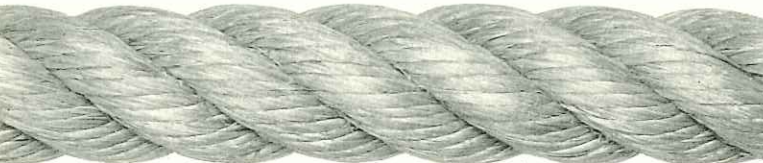


No. 1 

No. 2 

No. 3 

No. 4 

No. 5 

No. 6 

THE PRINCIPAL TYPES OF ROPE AND CORDAGE

(1) Single thread. (2) Corded product. (3) Twisted product. (4) Three-strand rope. (5) Four-strand rope with heart. (6) Six-strand rope with heart

Cordage Terms and Definitions

YARN (or thread):

A number of fibers twisted together. This twist is usually right hand, but can be left hand if the use of the goods requires.

STRAND:

Two or more yarns twisted together. This twist is in the opposite direction to the twist in the yarns.

PLAIN-LAID ROPE:

Three, four, or six strands twisted together in the opposite direction to the twist in the strands, so that one twist offsets the other, making the strands hold together.

CABLE OR WATER-LAID ROPE:

Three, — sometimes four plain-laid three-strand ropes twisted together in the opposite direction to the twists in the ropes. This rope has somewhat less tensile strength than a plain-laid rope of equal diameter but is more elastic, stands greater surface wear, and is therefore superior for certain purposes.

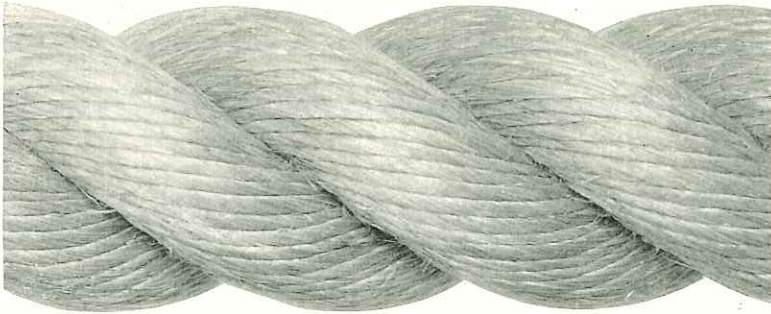
CORDED:

A term indicating two or three yarns twisted together, additional twist being put into the yarns during the process in an opposite direction to the turn in the cord.

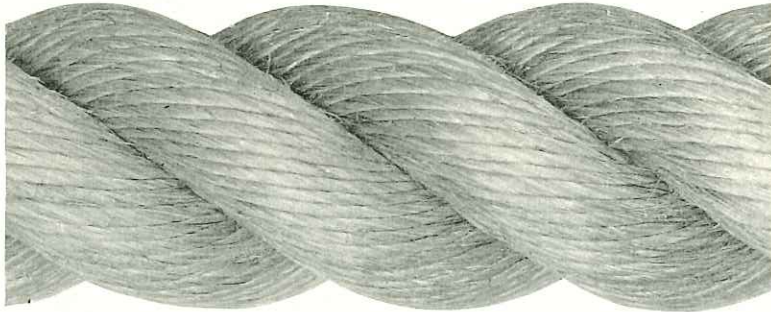
LAY:

The term used to designate the amount of twist put into the rope; i.e., the angle of the strands in the rope and the thread in the strands, usually expressed as hard-laid, common or regular lay, soft-laid, Bolt Rope, Sailmaker's lay. Other variations are often made in rope required for special work. Generally speaking, the softer the lay, the stronger the rope. A hard-laid rope has greater firmness and resistance to abrasive wear. In a soft-laid rope the wearing qualities are sacrificed to ease in handling, whereas in a hard-laid rope strength is often sacrificed to utility. In all cases the use of a rope should govern the lay.

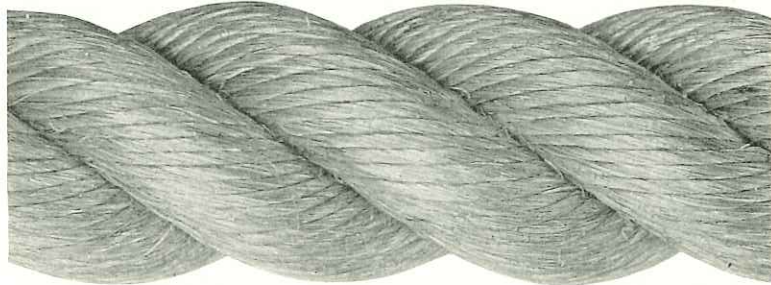
No. 1



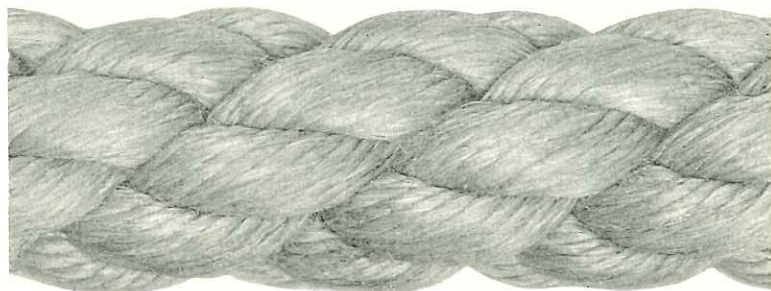
No. 2



No. 3



No. 4



THE ABOVE ILLUSTRATIONS SHOW THE DIFFERENCE
IN THE LAY OF ROPE

- (1) Soft-laid rope. (2) Common-laid rope. (3) Hard-laid rope.
(4) Cable or water-laid rope

PLYMOUTH ROPE AND THE MERCHANT MARINE

RIGHT-LAID ROPE:

Rope in which the strands are twisted together in the opposite direction to the movement of a clock's hands.

Unless otherwise indicated, plain-laid ropes described herein are right-laid.

LEFT-LAID ROPE:

Rope in which the strands are twisted together in the same direction as the movement of a clock's hands.

HAWSER:

Any rope 5" in circumference and above that is used for towing is designated as a Hawser and may be plain-laid or hawser-laid.

The term Hawser-laid is used to describe a left-laid rope.

A Cable is designated as Hawser-laid, being made from three right-laid ropes.

FATHOM:

Six feet.

COIL:

Standard length, unless otherwise designated, 200 fathoms (1200 feet).

HALF COIL:

Standard length, unless otherwise designated, 100 fathoms (600 feet).

YARDAGE:

Length per unit of weight.

LANYARNS:

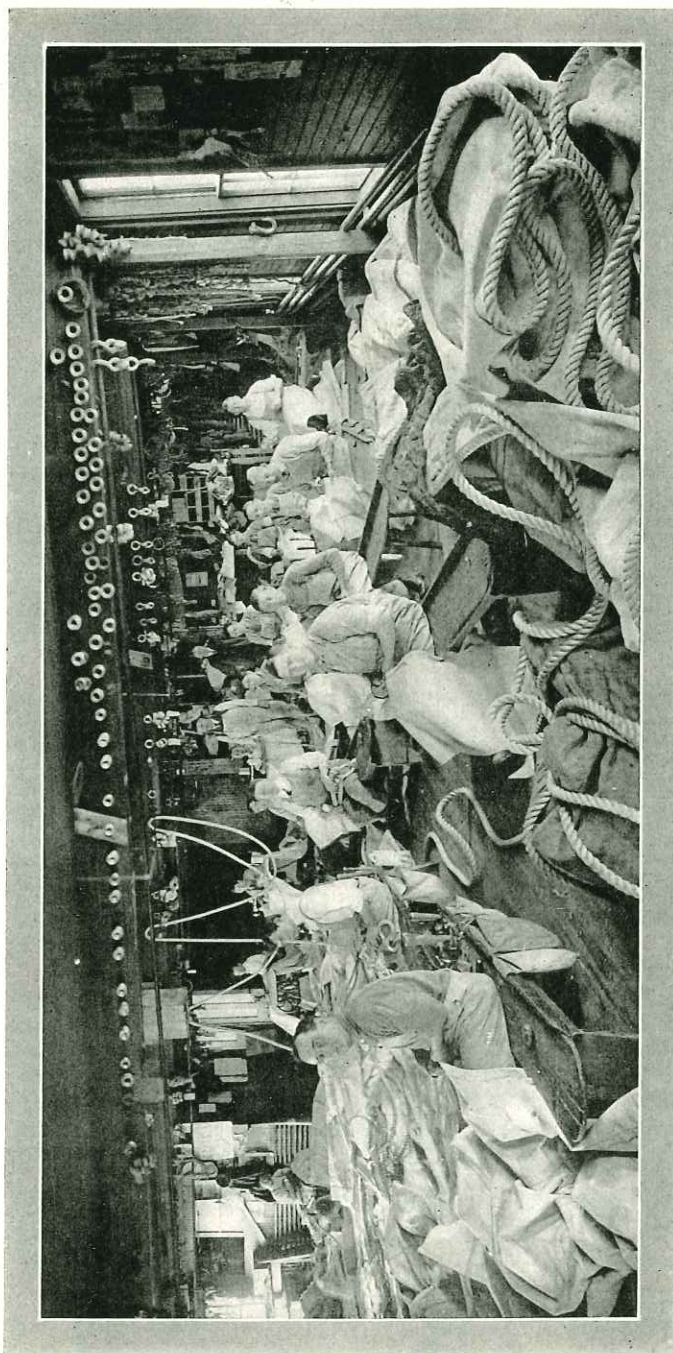
The rope rove through the dead eyes by which the shrouds and stays are set taut.

MANROPES:

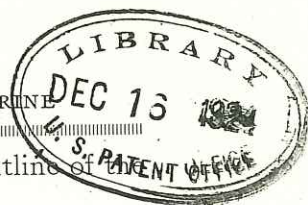
Four-strand tarred hemp rope usually 2" or 2 $\frac{1}{4}$ " in circumference, wormed, parcelled, covered with canvas, and painted and rove through stanchions at gang and companion ways.

TO WORM:

To wind a small rope, yarn, or some of the tarred fittings spirally around a rope, filling up the contline of the rope preparatory to parcelling. The size of the material



WITH THE SAILMAKERS, COLBY LOFT, GLOUCESTER, MASS.



used must be governed by the size of the contline of rope being wormed.

PARCELLING:

Parcelling applies both to the operation and the material used.

Parcelling: — Long, narrow strips of cloth, burlap, or canvas wound spirally around the rope after it has been wormed to make a smooth surface for the serving. After parcelling is complete it is tarred or painted if it is to be canvased on a fiber rope; on a wire rope it is painted with red lead.

SERVING:

Winding the rope closely with Marline, Spunyarn, or other of the tarred fittings, this being put on with a serving mallet, which winds on the material used for service under tension and gives a close covering to the rope. Worming and parcelling are put on in the same direction as the lay of the rope; the serving opposite.

"Worm and parcell with the lay,
Then turn and serve the other way."

A SERVING Mallet:

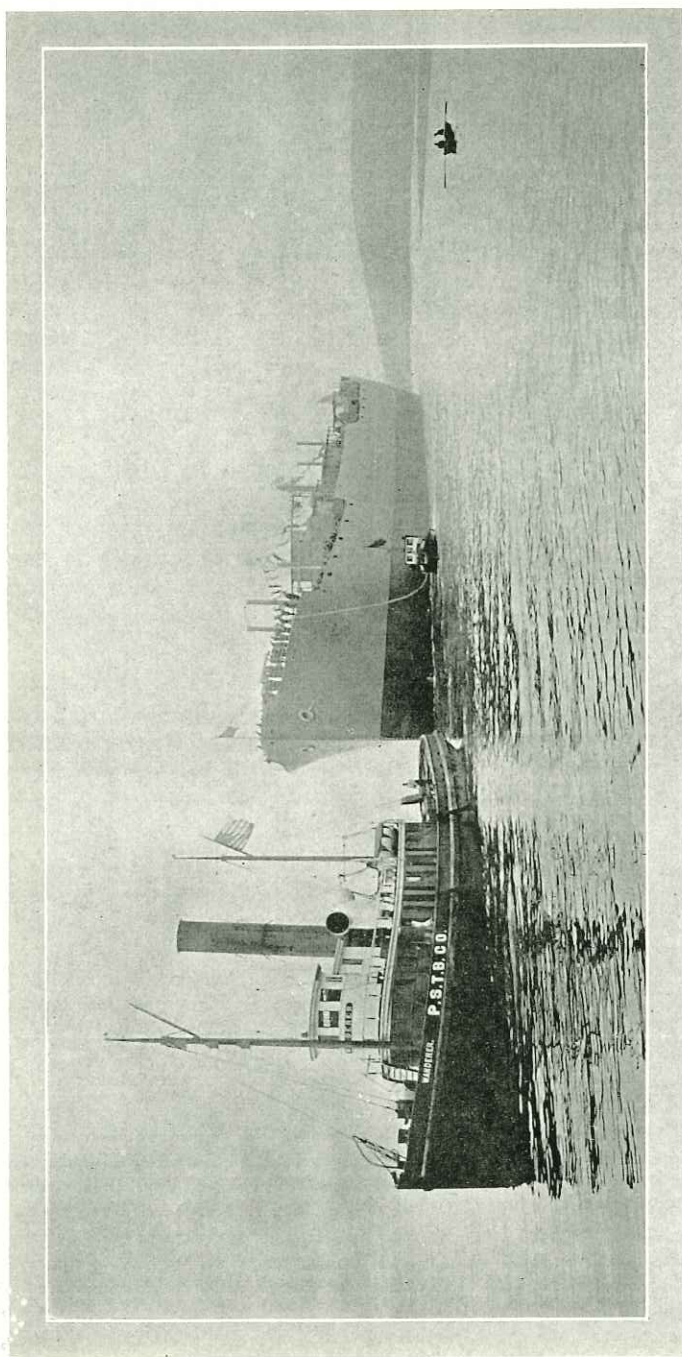
A tool used in the rigging loft and on shipboard, shaped like a mallet with a groove in the head, which fits over the rope and of a size to accommodate itself to the rope being served.

CONTLINE OF A ROPE:

The space between the strands on the outside of the rope.

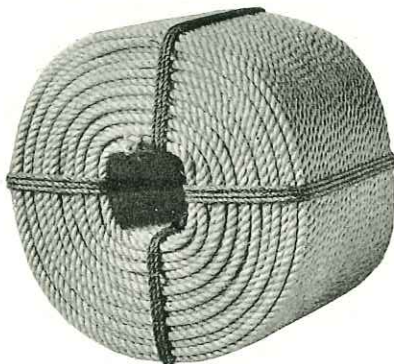
FILLING:

Material used in worming rigging; namely, filling in the contline so that a smooth surface may be obtained. It is practically a strand of a rope and is made of such a number of tarred yarns as will give the size necessary to fill the contline of the rope. It is designated by the number of yarns rather than the size, as 4-thread, 6-thread, 7-thread.



THE STEAMSHIP "SEATTLE"

The "Seattle" was the first ship launched by the United States Shipping Board. She was built by The Skinner & Eddy Shipbuilding Company, Seattle, Wash., and Plymouth Rope was used exclusively during her construction and for her equipment



Plymouth Manila Rope

Three-Strand

PLYMOUTH MANILA ROPE — Three-Strand, Common Lay is recommended for all work not calling for goods of special construction, stock, or lay. For general work around a shipyard, for certain classes of cargo hoists where the rope is to be wound on a winch, for cargo slings, and for many other applications this rope is especially adapted.

It is made from Manila fiber of high quality and has ample strength and durability for all general purposes.

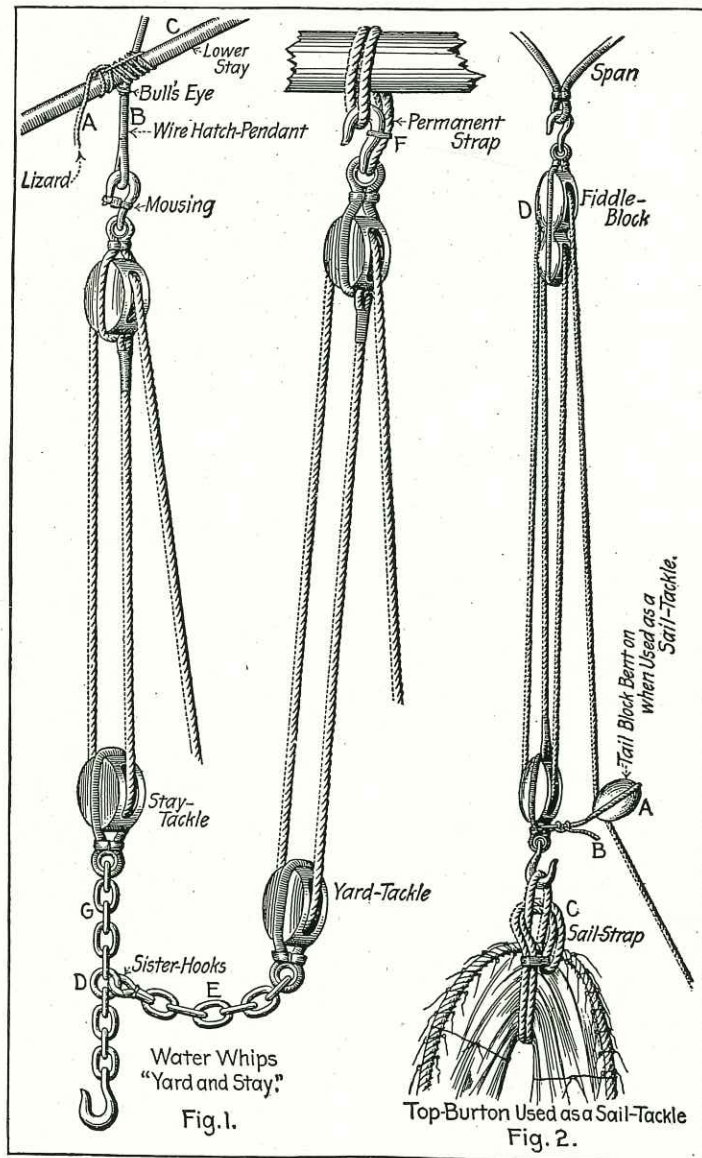
The lay is soft enough for easy handling and splicing, yet firm enough to preserve the rope's shape.

If desired, it can be obtained left-laid or tarred, on special order, without extra charge.

Regularly made in sizes from 6 thread to 10 inches in circumference. It is put up in coils of 200 fathoms (1200 feet) and 100 fathoms (600 feet).

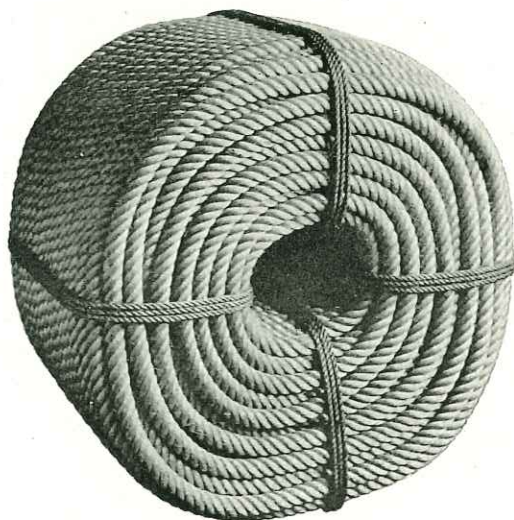
Sizes up to 21 thread put up if preferred in reels of 25- and 50-pound weights.

PLYMOUTH ROPE AND THE MERCHANT MARINE



Reproduced from Knight's book, "Modern Seamanship," through courtesy of D. Van Nostrand Company, Publishers, New York City

For cargo hoists two types of Manila Rope are used. The sizes varying with the preference of the ship owners. Common Manila is used for slings and for falls when used on a winch. When used on a drum Plymouth Manila Best Fall is preferred



Plymouth Manila Best Fall

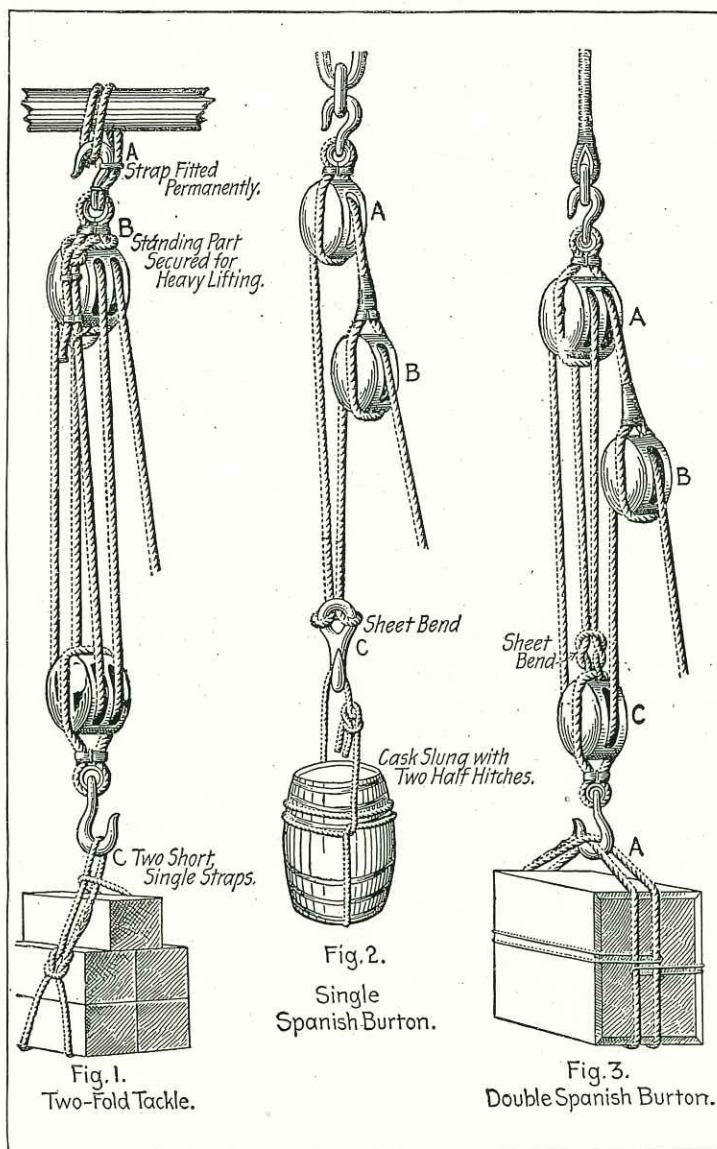
PLYMOUTH MANILA BEST FALL is recommended for cargo hoists where the rope is to be wound on a drum and for other severe hoisting work as well as for pile-driver hammer lines.

It is a four-strand rope with a heart made from selected fiber, the yarns being tallow-treated both in the strands and in the heart, which reduces chafing and internal friction to a minimum.

Plymouth Manila Best Fall is laid much harder than ordinary four-strand rope. Consequently it is less susceptible to the action of the water, shows extra firmness under lateral pressure as when in wraps on engine drum, and better resistance to the untwisting and spinning motion when used with a single whip as most Coal Falls are.

Furnished commonly in sizes from $2\frac{1}{4}$ inches to 6 inches in circumference.

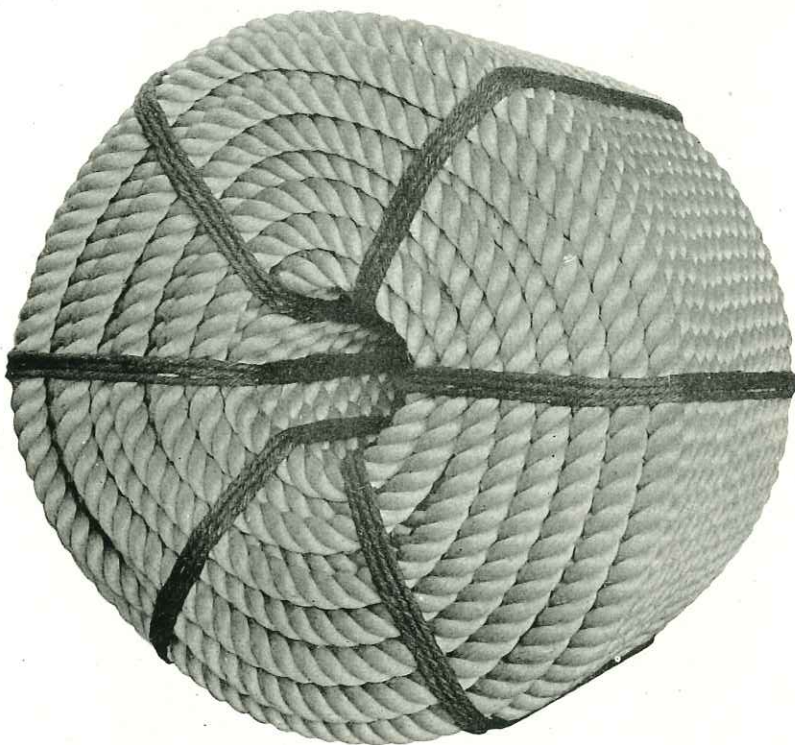
Put up in coils of any desired length up to 185 fathoms (1110 feet).



Reproduced from Knight's book, "Modern Seamanship," through courtesy of
D. Van Nostrand Company, Publishers, New York City

OTHER TYPES OF BLOCKS AND FALLS USED IN CARGO HOISTS

See page 24

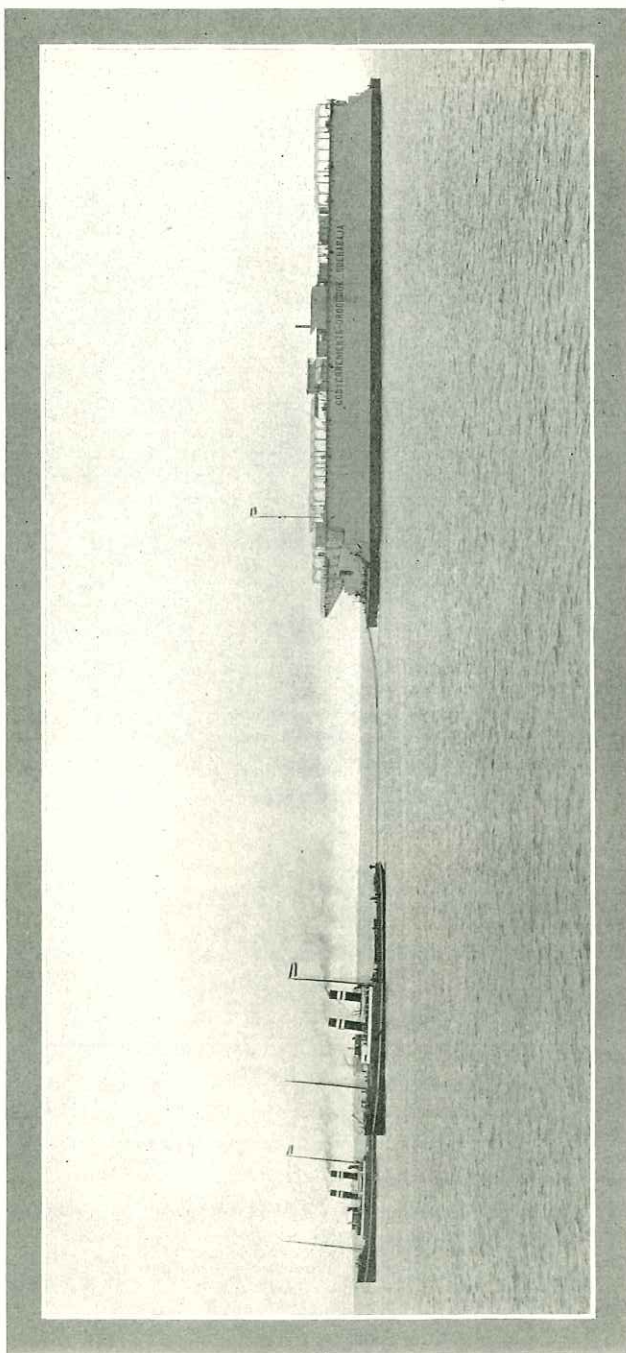


Plymouth Manila Towlines

PLYMOUTH MANILA TOWLINES are used for general towing purposes. They are usually furnished in sizes of 5 inches circumference and upwards and in standard coils of 200 fathoms (1200 feet) and half coils of 100 fathoms (600 feet). Twelve-inch circumference rope may be furnished in coils of 250 fathoms (1500 feet) and in correspondingly greater lengths on the smaller sizes if desired.

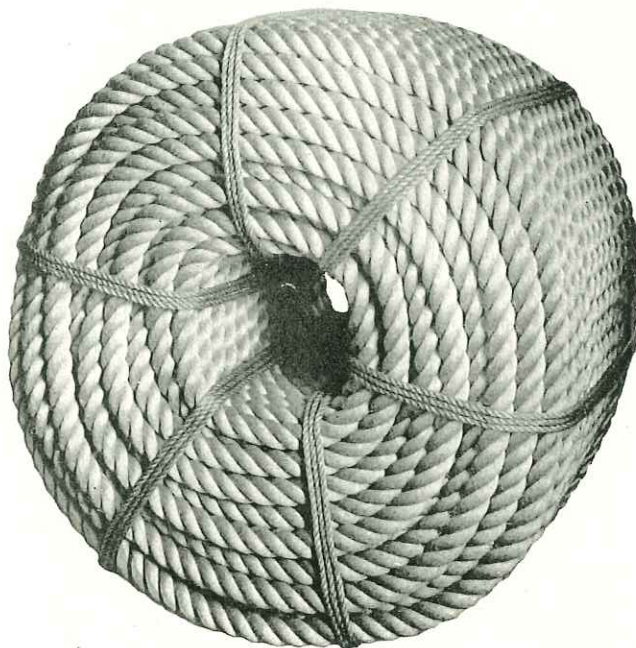
The lay and material are practically the same as regular Plymouth Manila Rope.

Special towlines are also made from selected or Bolt-Rope stock if desired.



TOWING DRY DOCK

From Holland to Sourabaya this 1500-ton dry dock was towed for a distance of 9200 miles with Plymouth Towlines. A hard, grinding job accomplished without mishap



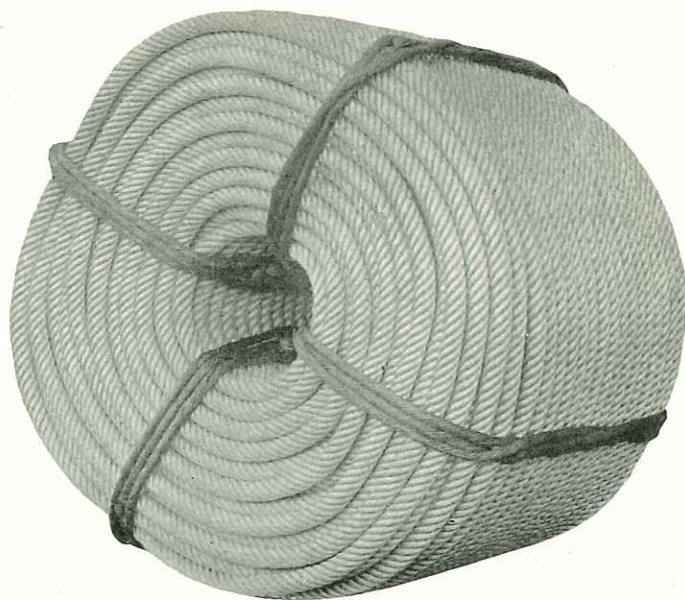
Plymouth Manila Steamboat Lines

PLYMOUTH MANILA STEAMBOAT LINES are used for docking and tying up steamboats and steamships. They are often called backing, spring, check, running, or swinging lines, depending on the different parts which they play in docking work.

These ropes are laid medium soft to give greater strength and greater ease in handling.

Furnished in sizes as desired, usually in 5-inch circumference and upwards, put up in standard coils 200 fathoms (1200 feet) and half coils 100 fathoms (600 feet), material being the same as in regular Manila Rope.

Special Steamboat Lines are also made from selected or Bolt Rope stock if desired.



Plymouth Manila Wheel Rope

PLYMOUTH MANILA WHEEL ROPE is used for marine-steering gear, especially on yachts, tugs, barges, dredges, lake, river, harbor, and coastwise steamers.

It is furnished in both four-strand with heart and six-strand with heart.

Made from selected fiber and is extra strong and durable.

Contains tallow-treated yarns both in the strands and in the heart, and is therefore less susceptible to the action of water than ordinary Manila Rope.

The four-strand type is laid slightly harder than our regular four-strand product.

The six-strand type, however, is more flexible and better adapted for work on drums of small diameter. It is furnished usually in sizes from $2\frac{1}{4}$ inches to $3\frac{1}{2}$ inches in circumference.

Both types furnished in coils 185 fathoms (1110 feet).



Plymouth Manila Yacht Rope

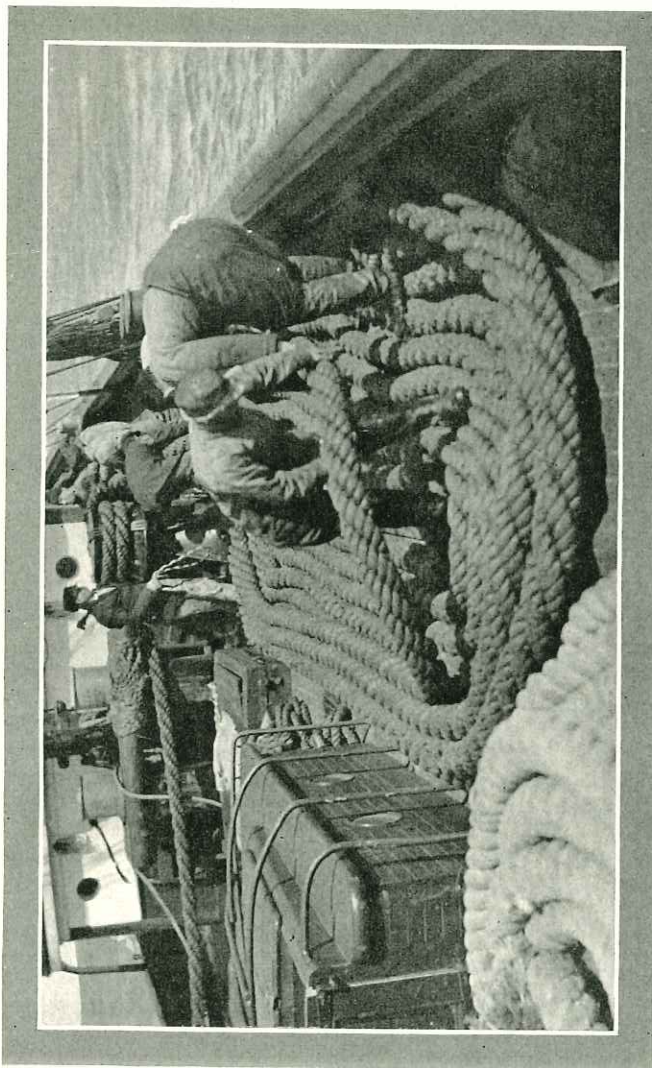
THIS is designed for the running rigging of pleasure yachts and other small craft, and is probably more widely used for that purpose than any other rope on the market.

It is furnished either three-, four-, or six-strand, the last type being regularly made with a heart, and the four-strand rope having it if desired, in the larger sizes.

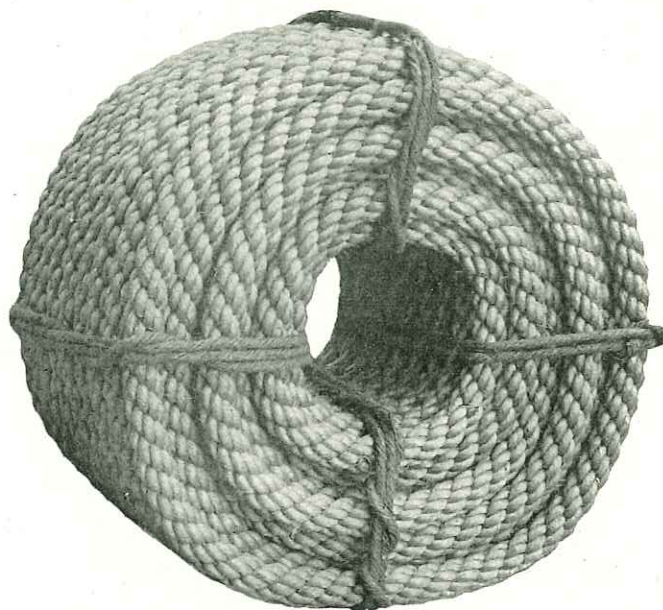
PLYMOUTH MANILA YACHT ROPE is made from the finest grade of Manila fiber grown and is treated with the greatest care in curing, giving much greater resistance to deterioration and abrasive wear.

The lay is medium soft, insuring easy handling.

Standard coils, both three- and four-strand, measure 200 fathoms (1200 feet). Standard coils of six-strand measure $166\frac{2}{3}$ fathoms (1000 feet).



Hauling in 15" Plymouth Manila Wrecking Cable used for floating British steamer "St. Helena" at Currituck Beach, N. C.



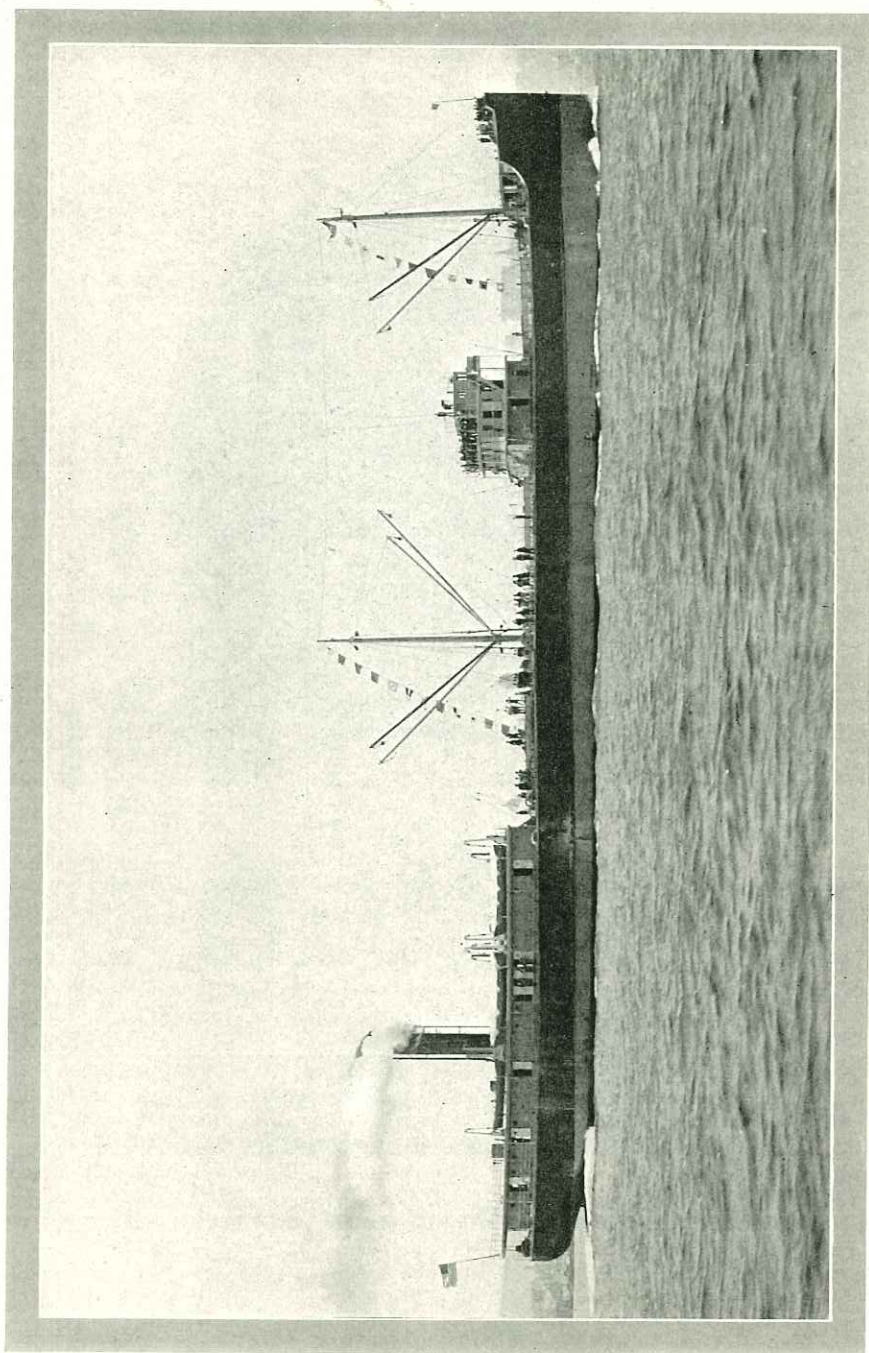
Plymouth Manila Wrecking Cable

PLYMOUTH MANILA WRECKING CABLE is used for the floating of stranded vessels. It is a hawser-laid product with plenty of elasticity and minimum unlaying tendency, very important requirements on this work.

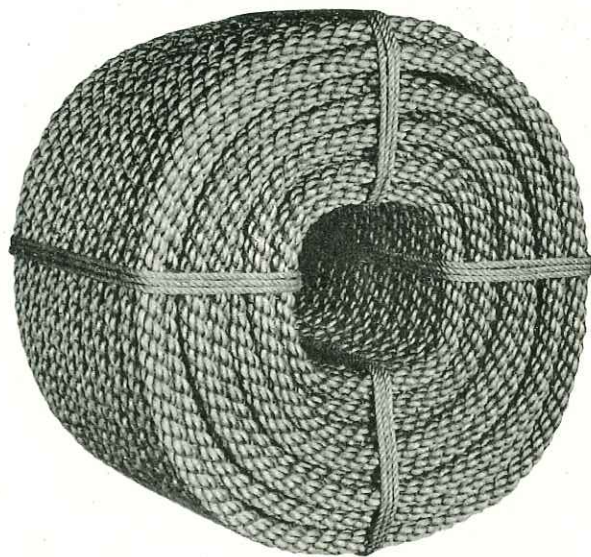
These cables are made from selected fiber and have extra strength and durability.

Sizes usually average around $15\frac{1}{2}$ inches in circumference.

Standard length coils 200 fathoms (1200 feet).



CONCRETE SHIP THE "FAITH"
The first "stone" ship of ocean-going dimensions, equipped with Plymouth Manila Hawvers

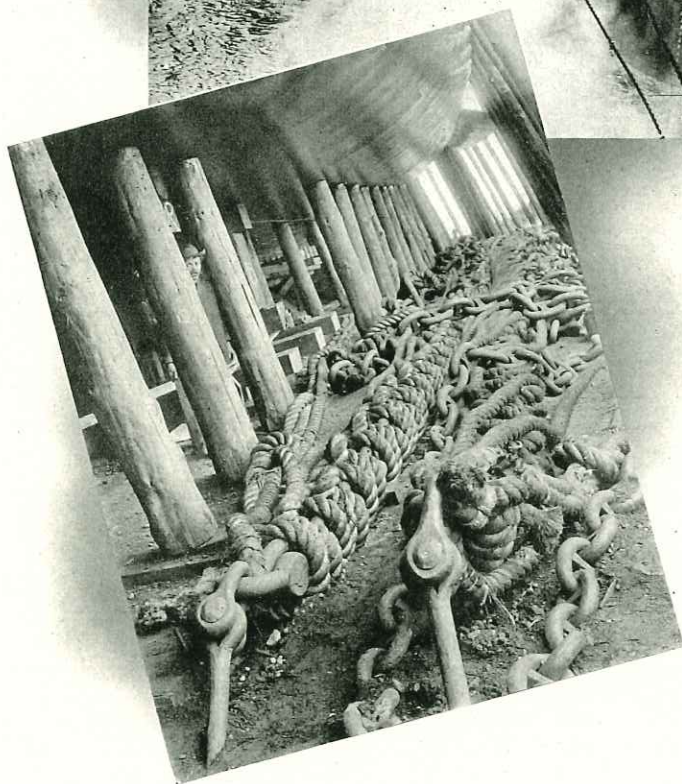
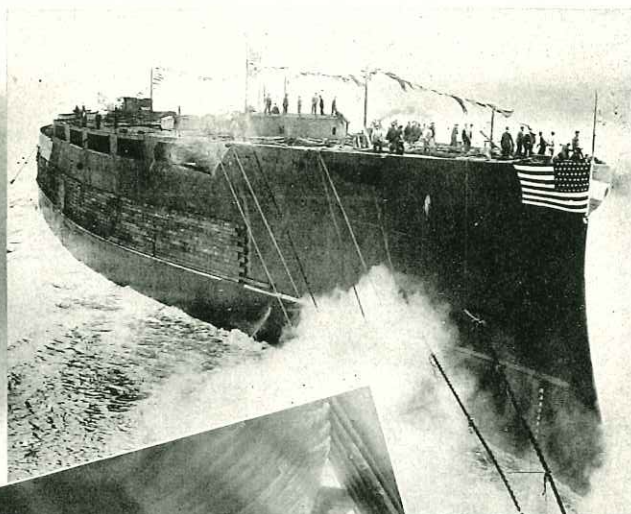


Plymouth Manila Fishermen's Cables

FOR fishing-schooner anchor lines. A hawser-laid product with plenty of elasticity to withstand sudden strain.

Made of fiber, chosen especially for its strength and possessing great wearing quality. It is usually treated with high-grade tar to afford special protection against the action of water. May be furnished untarred if desired.

Range in sizes from 4 inches to 12 inches in circumference and in coils 60 — 75 — 90 — 100 and 120 fathoms (360 — 450 — 540 — 600 — 720 feet).



LAUNCHING A 22,000-TON BATTLESHIP

Plymouth launching lines are used by most shipbuilders, the type of line being dependent on the method of launching. In the above illustration the battleship was controlled by rope stops designed to break at the proper time. The success of this method of launching is dependent entirely upon the uniformity of the rope which must break at just the point previously determined upon

Boatswain's Equipment

Fiber Ropes used in connection with Ground Tackle

PENDANT FOR CLEAR HAWSE:

The clear hawse is part of the gear under charge of the Boatswain and is used when a ship at anchor in a tide way has swung through a half circle and the anchor chains have become crossed; to use the nautical term, the ship has a foul hawse.

If the foul cannot be cleared by swinging the ship, the chain must be hove in until the cross is reached, the foul chain unshackled, and the turn taken out, in which event the clear hawse is used.

The clear hawse consists of a 6-fathom length of open-link chain, the metal one-half the diameter of the ship's chain with a pelican hook at the outer end, the inner end being fitted with a shackle and solid thimble into which is spliced a 30-fathom length of Tarred Hemp or Manila Rope, the diameter of which should be equal to the diameter of the metal in the chain. On a large ship a wire rope pendant is often used.

THE DIP ROPE:

The dip rope is used in connection with the clear hawse in clearing a foul chain. It consists of a 6-fathom length of chain, the metal 1 inch in diameter, the outer end carrying a shackle large enough to engage a link of the chain cable. The inner end is fitted with a rope pendant about 30 fathoms in length — Manila Rope of 7-inch circumference is most commonly used.

The dip rope is run out the hawse-pipe, taken around the riding cable in a direction contrary to the turns to be taken out, and brought back inside, where it is secured to the chain forward of the shackle, preferably to the end link.

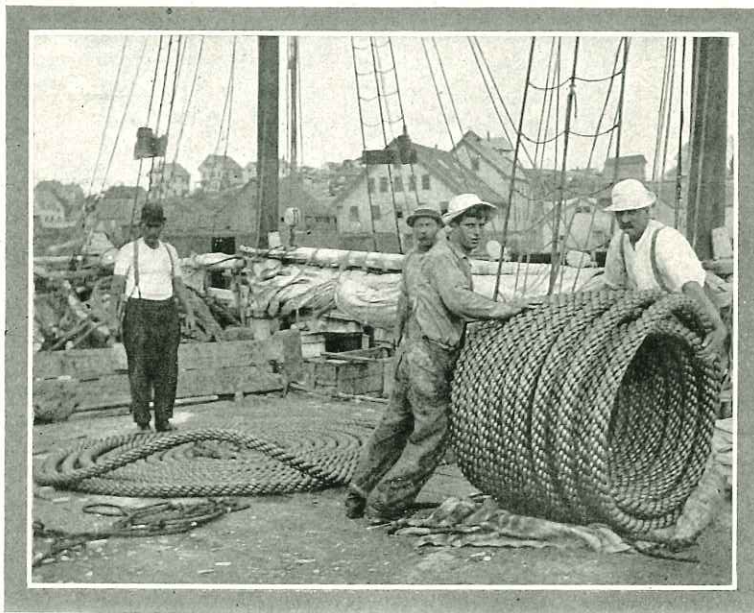
HOOK-ROPE:

Gear used in easing swivels and shackles over the Wild Cat, as they cannot take the lugs of the Chain Grab as securely as the ordinary chain link.

This trouble occurs when the length of chain out is such that the swivel comes upon the Wild Cat when the anchor is breaking ground (leaving the bottom). The situation is met through use of the hook-rope, which consists of a hook, attached to which is a pendant of Manila Rope of the necessary size. This is caught on the chain and the pendant carried to the "gypsy," or capstan.

If the ship is not equipped with capstan, or its position is such that the lead is bad, deck tackle well manned is used.

These ropes, together with deck tackles, straps, and lashings of dependable rope and tarred fittings are an important part of the Boatswain's Stores on a sea-going ship.



Vessels which sail to the many fishing grounds need durable and serviceable cables. Plymouth Fishermen's Cable gives the necessary wear and service and is demanded by the majority of skippers

Use and Care of Rope

USE ON CAPSTAN AND WINDLASS

The principle of the contrary turn in rope making must be considered in the care of rope used on a capstan or windlass. If the rope is thrown on always in the same direction, the "afterturn" will be continually thrown out. The rope will be injured and operation delayed. When using rope on a double capstan or nigger head, that is, a capstan on each end of shaft, each capstan having a fall, care must be taken that with the capstan running and no strain on the rope the turns left on the capstan do not chafe.

A rope held taut in service when dry should immediately be slacked off if it should become wet. If this is not done, the contraction of the rope will either cause it to break or to damage the material to which it is attached.

DETERIORATION FROM ACID

Acid is very detrimental to the life of rope and dangerous to those using it. Acid damage often occurs in transportation. There may be a slight trace of acid on the floor of the car which would not ordinarily attract attention. This acid will sometimes be absorbed by the rope and it will fail in service, usually in many places, as each course in the coil comes in contact with the acid. Great care must be taken always, whether the rope is in use or in storage, to prevent any opportunity for acid contact.

WET ROPE

Although a new rope gives an increased breaking strain when wet, and although Manila hemp deteriorates very little, a rope put away wet and dirty will soon lose strength. After use the rope should be cleaned and dried, coiled in a loose coil. Small ropes and tackles should be hung up, large ropes coiled on gratings raised from the floor to insure circulation of air.

ROPE STORAGE

A building or room where rope is stored must be dry and well ventilated. If rope is to be stored for a year or

PLYMOUTH ROPE AND THE MERCHANT MARINE

more, it is best to pile it on a grated platform. A building without heat, which is damp in winter and spring and poorly ventilated, is a bad place to keep rope. The store rooms of iron or steel ships is a good example of poor rope storage. Rope will deteriorate rapidly under such conditions, and dry rot will develop. This is a subject which has received little attention, and there are no reliable data at hand in regard to the cause and development of dry rot in rope.

ROPE ON SHIPBOARD

Halliards and sheets and all running rigging always under some strain and exposed to the drying effect of sun and air will dry out quickly. Care should be taken of the hauling part of the rope which is coiled on decks, and care should be taken in turning such ropes as boat falls end for end, as is oftentimes done, as the ends not under strain and not properly dried out are generally the poorest part of the rope.

HAWSER AND MOORING LINES

Hawser and mooring lines should be coiled in loose coils and hoisted above decks when there is time and opportunity. Hawsers in service should be coiled on a grating covered with a tarpaulin in bad weather, exposed to the sun and free circulation of air in good weather. This is the best position possible for a rope in service.

SUMMARY

Human life often depends upon a rope in service, and at all times, especially now, a rope represents considerable value. A consideration of these facts should cause the necessary precautions to be taken, for they are but the exercise of simple care and economy.

This preservation photocopy was made
at BookLab, Inc. in compliance with copyright law.
The paper meets the requirements of ANSI/NISO
Z39.48-1992 (Permanence of Paper)



Austin 1996

US PATENT & TRADEMARK OFFICE



3 0402 00104 0460

